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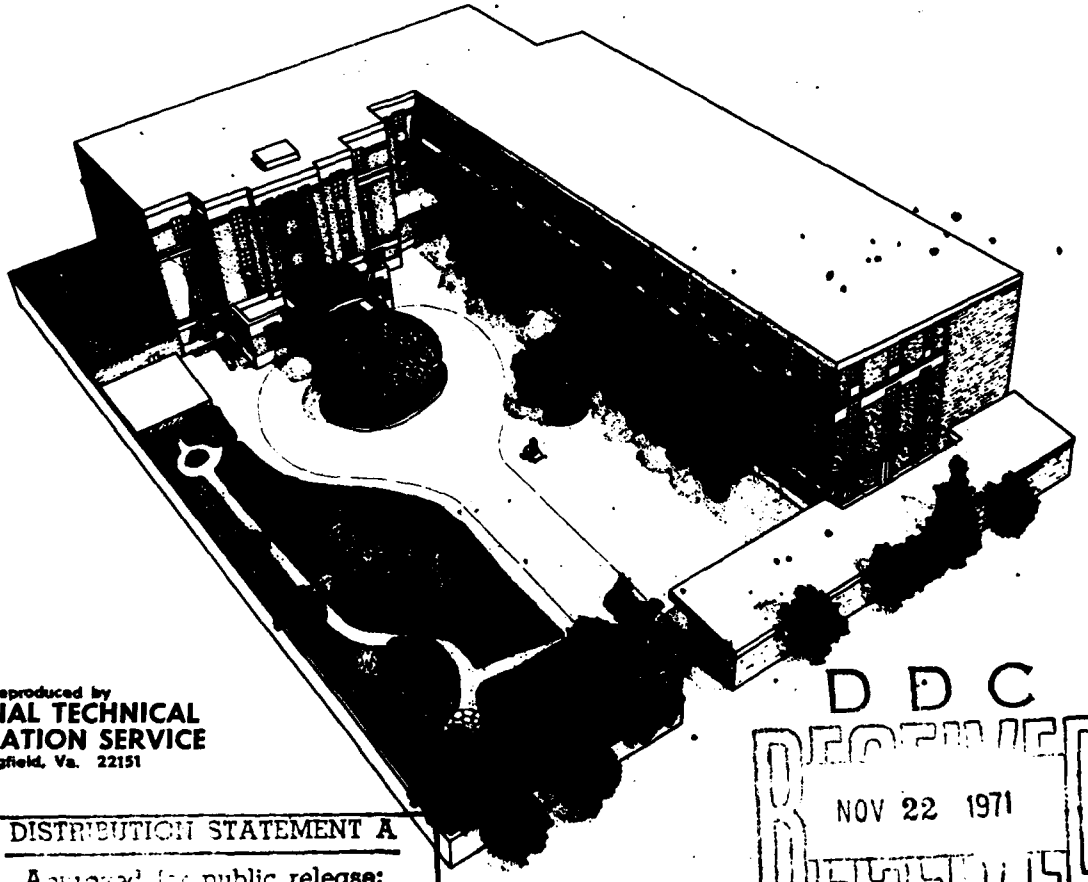
VII. SEROLOGIC AND ISOLATION STUDIES ON HORSES



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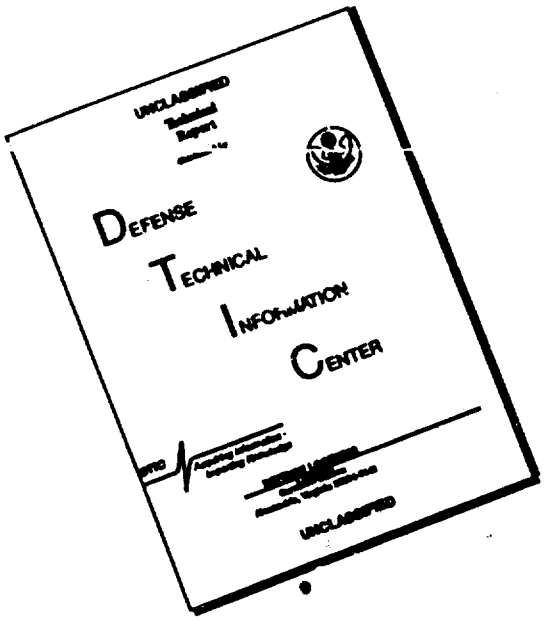

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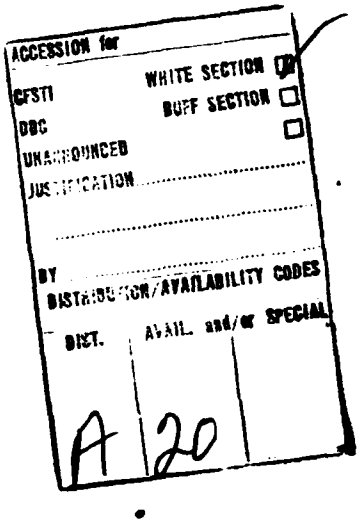

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13. ABSTRACT

A SURVEY OF 12 HORSES SHOWED 8 WITH AGGLUTINATION TITERS OF 1:100 OR GREATER. THE SEROLOGICAL EVIDENCE OF LEPTOSPIROSIS IS CORROBORATED BY THE ISOLATION OF LEPTOSPIRA AUSTRALIS FROM ONE HORSE.

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LEPTOSPIROSIS IN THE PHILIPPINES†
VII. SEROLOGIC AND ISOLATION STUDIES ON HORSES

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INTRODUCTION

The versatile character of leptospirosis as reflected in its wide choice of hosts has not been completely studied in the Philippines. (Bolte, 1966). No work has been published locally on the horse as a probable reservoir and source of infection.

In view of the meagre data available, serologic and isolation surveys were undertaken to gauge the status of equine leptospirosis in the country.

MATERIALS AND METHODS

Blood obtained from 12 horses was analyzed for leptospiral antibodies using microscopic agglutination test with live antigens. Urine specimens for culture studies were also obtained in accordance with Galton's technique (1962).

RESULTS AND DISCUSSION

Table 1 shows 8 out of 12 horses with agglutination titers of 1:100 or greater. Three subjects demonstrated levels to two serotypes while five had titers to a single serotype. The presumptive existence of infection was corroborated by the isolation of *Leptospira australis*.

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Table 1

Distribution of Leptospiral positives according to serotype among horses.

Serotype	No. Positive
One serotype	
L. pomona	1
L. australis	
L. pyrogenes	1
L. tarossovi	1
Two serotypes	
L. cynopteri + poi	1
L. batavia + tarassovi	1
L. poi + madanensis	1
Total	8

The serologic picture depicted by the survey was quite heterogenous, and activity of *leptospirae* not usually detected in horses was identified. The predominant serotypes reported commonly, *pomona* (NCDC Zoonoses, July 1966; Hoeden, 1958) and *grippotyphosa* (Fiocre *et al.*, 1966; Hoeden, 1958) did not compose the majority of observed *leptospirae*.

The isolation of *australis* and the corroborative serologic findings are interesting. Serological evidence of leptospiral infection has been reported from Russia, Austria, Denmark, Germany, Switzerland, United States, France, and Yugoslavia. The predominant serotypes have been commonly detected against heterologous antibodies. The serotypes isolated from horses in Europe are *pomona*, *grippotyphosa*, *sejroe*, *saxkoebing*, *canicola*, and *icterohaemorrhagiae* (Fiocre, 1966; Hoeden,

1958; NCDC Zoonoses, July 1966). However the limited number of subjects in this report does not make this observation conclusive.

The results obtained do not define the role of *leptospirae* as pathogens in horses. No attempts were made to examine intraocular tissues for evidence of the spirochete since the horses analyzed were asymptomatic. Nevertheless, its affinity for these tissues were asserted by other authors (Kemenes *et al.*, 1961; Morter *et al.*, 1964; Roberts, 1958; Williams, 1968; Witmer, 1956). It has been implicated in equine periodic ophthalmia, recurrent iridocyclitis, and uveitis. Experimental work (Bolte, 1966; Sova, 1964) also succeeded in demonstrating its capacity to invade and persist in the tissues of the eyes. Such studies are yet to be conducted in the Philippines.

SUMMARY

A survey of 12 horses showed 8 with agglutination titers of 1:100 or greater. The serological evidence of leptospirosis is corroborated by the isolation of *Leptospira australis* from one horse.

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